Energy Conservation Committee Annual Report



Jessica Stoner, Project Manager
Management Services Division
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MARYLAND ENERGY ADMINISTRATION

Agenda

- Members of the Energy Conservation Committee
- Maryland Energy Administration Grant Awarded Projects
- Additional Initiatives Implemented in FY09 -FY10
- Fuel Conservation Plan
- Outlook for FY11

Members of the Energy Conservation Committee

- Austin Abraham –
 Management Services
- Charlie Dalphon BOE
- David Ennis DPW
- Doug Pearre Maintenance
- Hal Good Purchasing
- Hilari Varnadore Office of Environmental Sustainability
- Jeannine Jennings Social Services
- Jessica Stoner –
 Management Services

- Kevin Demosky DUSWM
- Kevin Fisher Facility Services
- Mike Butler Maintenance
- Pat Hannah Fleet Services
- Steve Logsdon –
 Maintenance
- Steve Moriarty IIT
- Tim Clarke Sheriff's Office
- Todd Oyster Maintenance
- Wayne Roach Facility Services



Maryland Energy Administration Grant Award Projects



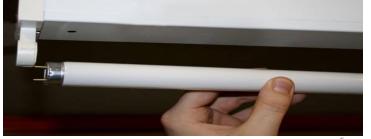
Maryland Energy Administration Grant Award Projects

- Awarded \$80,000
- 21 Projects Related to Energy Conservation
 - Lighting
 - Occupancy & ambient lighting sensors
 - Energy Management Systems
 - HVAC replacements
 - Controls, programmable thermostats & timers
 - Building Energy Assessments

Upgrades to Lighting

110 lights upgraded from metal halide or mercury vapor to T-8 fluorescent

- <u>Locations</u>: Courthouse, Health Dept., Transit, Westview Fire station, and Fleet Services
- Grant Award: \$13,850 (17% of funds)
- Estimated Savings: \$10,500/yr.
- Payback: 1.32 years



Occupancy & Ambient Lighting Sensors

75 occupancy sensors installed in storerooms, mechanical rooms, and other selected areas

41 ambient lighting sensors installed in front lobby and stair towers at the LEC

- <u>Locations</u>: Courthouse, DPW, Health Dept., LEC, Westview Fire station
- Grant Award: \$6,120 (8% of funds)
- Estimated Savings: \$5,800/yr.
- Payback: 1.06 years



Energy Management Systems

Upgraded HVAC controls, installed new programming and reconfigured existing software

- <u>Locations</u>: Health Dept. and Urbana Library/Senior Center
- Grant Award: \$29,860 (37% of grant)
- Estimated Savings: \$16,665/yr.
- Payback: 1.79 years



HVAC Replacements

Replaced 3 aging HVAC units increasing the energy efficiency rating of the equipment

- Locations: ADC and Senior Center
- Grant Award: \$21,000 (26% of funds)
- Estimated Savings: \$1,135/yr.
- Payback: 18.50 years



Programmable Controls

CO sensors & controls to manage exhaust fans; programmable thermostats on radiant heaters; and timer on air compressor

- <u>Locations</u>: Courthouse, Transit, and Westview Fire station
- Grant Award: \$2,180 (3% of funds)
- Estimated Savings: \$2,280/yr.
- Payback: 0.96 years

Building Assessments



Evaluated operating systems and their impact on energy consumption

Identified programs and projects to reduce energy consumption and costs

- <u>Locations</u>: ADC, Hwy/Fleet Services, C. Burr Artz Library, Emmitsburg Community Center
- Grant Award: \$9,000 (11% of funds)
- <u>Savings</u>: Priceless
- <u>Benefit</u>: Provides guidance and direction for future projects

MEA Recap

- Total spent: \$80,000
- Future on-going savings: \$36,320/yr.
- ENERGY Saved:

356,665 kWh annually

925 therms (natural gas) annually







Additional Energy Initiatives in FY09-FY10



TPO Roof Replacements



Thermoplastic polyolefin (TPO) roofing is usually a light or white colored roof, which absorbs less heat, reducing the amount of heat absorbed into a building's conditioned space.

• Location: Health Dept., Parks and ALS

• <u>Savings</u>: Combined = \$1,360/yr. (30 years =

\$40,800)

Lighting Replacement & Conservation

- Metal halide to fluorescent at LEC
- Incandescent to LED at Courthouse
- 32-watt to 28-watt fluorescent replacements County-wide
- Modifications of light controls at the Health Department
- <u>Total savings</u> = 81,477 kWh \$8,960 annually

Downsizing Fleet Vehicles

- 8 Fleet vehicles downsized
- 11 Fleet vehicles replaced with hybrid equivalent
- <u>Total Savings</u> = 3,985 gallons of fuel and \$9,480 annually



Other Projects Showing Savings

- Rooftop unit replacements
- Air temperature equalizers in classrooms
- Dual flush handles in restrooms
- IIT's Data Center Renovation
- <u>Total Savings</u> = \$19,760 annually











FY2009 & FY2010 On-going Annual Energy Savings Achieved...



<u>\$75,880</u>

PLUS...

Fuel Conservation Results

	Total Gallons Saved	52-Week % Change
1 st 52-Weeks (FY09)	77,191	-7.1%
2 nd 52-Weeks (FY10)	66,394	-6.2%
Total	143,585	

Total 2-year savings = \$330,000

\$\$\$ Results...

5-Year Cumulative Savings with Fuel Conservation

\$930,000

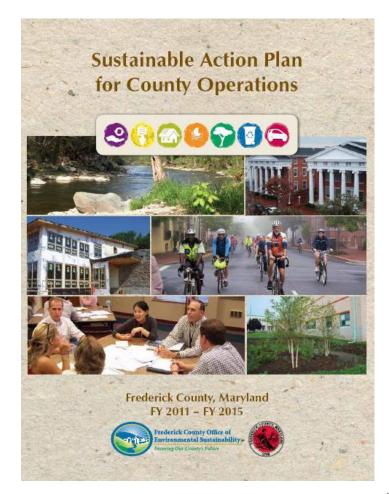
On-going Annual Savings with Fuel Conservation

\$391,470



County Energy Conservation Planning

COMPREHENSIVE **ENERGY PLAN** FOR FREDERICK COUNTY, MARYLAND -FINAL-Management Services Division September 2010



Outlook for FY11

- TransIT's first 2 hybrid buses
- Emmitsburg Community Center TPO roof
- Brunswick Library LEED Certified
- Catoctin Nature Center Green roof
- Teleconferencing capabilities





EECBG Projects for FY11



- Solar Domestic Hot Water Preheat Project
- LED lighting conversion in Courtrooms
- LED lighting conversion at Highway Operations/Fleet Services truck shed

HVAC replacement at Pinecliff A-Frame

